

WHAT IS CLAIMED IS:

1. A method for fabricating a semiconductor device, comprising:
  - a first step of forming an insulating film of high dielectric on a substrate; and
  - a second step of irradiating light onto the substrate on which the insulating film is formed.
2. The method of claim 1, wherein the insulating film is a gate insulating film of a transistor.
3. The method of claim 2, further comprising, between the first and second steps, the step of selectively introducing dopants into the substrate.
- 10 4. The method of claim 2, further comprising, between the first and second steps, the step of forming a conductor film on the insulating film.
5. The method of claim 1, wherein the insulating film is a capacitor insulating film of a capacitor.
6. The method of claim 5, further comprising, prior to the first step, the step of selectively introducing dopants into the substrate.
- 15 7. The method of claim 1, wherein the substrate is made of silicon.
8. The method of claim 1, wherein the insulating film contains a metal element.
9. The method of claim 8, wherein the insulating film contains at least one of hafnium, zirconium, lanthanum, cerium, praseodymium, neodymium, yttrium, and
- 20 aluminum.
10. The method of claim 1, wherein the second step is conducted while the partial pressure of an oxygen gas or an oxygen compound gas is adjusted.
11. The method of claim 1, wherein the atmosphere used in the second step is composed of a nitrogen gas or an inert gas.
- 25 12. The method of claim 1, wherein in the second step, the substrate is heated to 100 to 500°C.